ENVIRONMENTAL IMPACT STATEMENT

EXECUTIVE SUMMARY

SASKATCHEWAN POWER CORPORATION

URANIUM CITY-RABBIT LAKE
115 KV TRANSMISSION LINE

NOVEMBER, 1986

TABLE OF CONTENTS

		page
1.0	Project Proposal	1
2.0	Need For The Project	2
3.0	Route Selection	2
4.0	Project Description	4
5.0	Existing Environment	6
6.0	Socio-Economic Environment	7
7.0	Impact Assessment & Mitigation Measures	8

EXECUTIVE SUMMARY

1.0 PROJECT PROPOSAL

Saskatchewan Power Corporation (SPC) proposes to construct a 138 kV transmission line, initially operated at 115 kV, from Uranium City to Rabbit Lake. The line, to be in operation by October 1988, would transmit power from the Wellington, Waterloo, and Charlot River hydro-electric generating stations near Uranium City to the Rabbit Lake mine site. The communities of Fond-du-lac, Stony Rapids, Black Lake and Wollaston Lake would be served by 25 kV distribution lines.

The SPC proposal arises from the recognition of an underutilized hydro-electric generation capacity near Uranium City following the closure of the Beaverlodge Mine by Eldorado Nuclear Ltd. in 1982. Although mining operations terminated at Uranium City the expansion at Eldorado Nuclear Ltd.'s mine at Rabbit Lake is creating a demand for electricity. This situation led to an agreement where SPC purchases Eldorado Nuclear Ltd.'s three hydro-electric generating stations and Eldorado Nuclear Ltd. makes a long term committment to purchase electricity from SPC at the Rabbit Lake mine.

2.0 NEED FOR THE PROJECT

The primary destination for the electricity would be the Eldorado Nuclear Ltd. Rabbit Lake Mine, however, the northern communities would also benefit. In particular, Fond-du-lac, Stony Rapids/Black Lake, and Wollaston Lake would have expensive and unreliable diesel generating systems replaced by cheaper and more abundant hydro-electric power. Uranium City is already supplied with hydro-electric power from the Wellington station.

Energy consumption by these communites is too small to warrant an extension of the southern electrical grid. The proposal to supply these communities with the proposed transmission line represents a major infrastructural investment not likely to otherwise occur.

Total costs for the proposed transmission line and ancillary features is approximately $43.7 million. Of this total approximately $10.4 million would be spent on materials in Saskatchewan and $27.7 million on construction contracts within the province.

3.0 ROUTE SELECTION

The preferred transmission line route (Figure 1) was determined by stereoscopic airphoto interpretation which

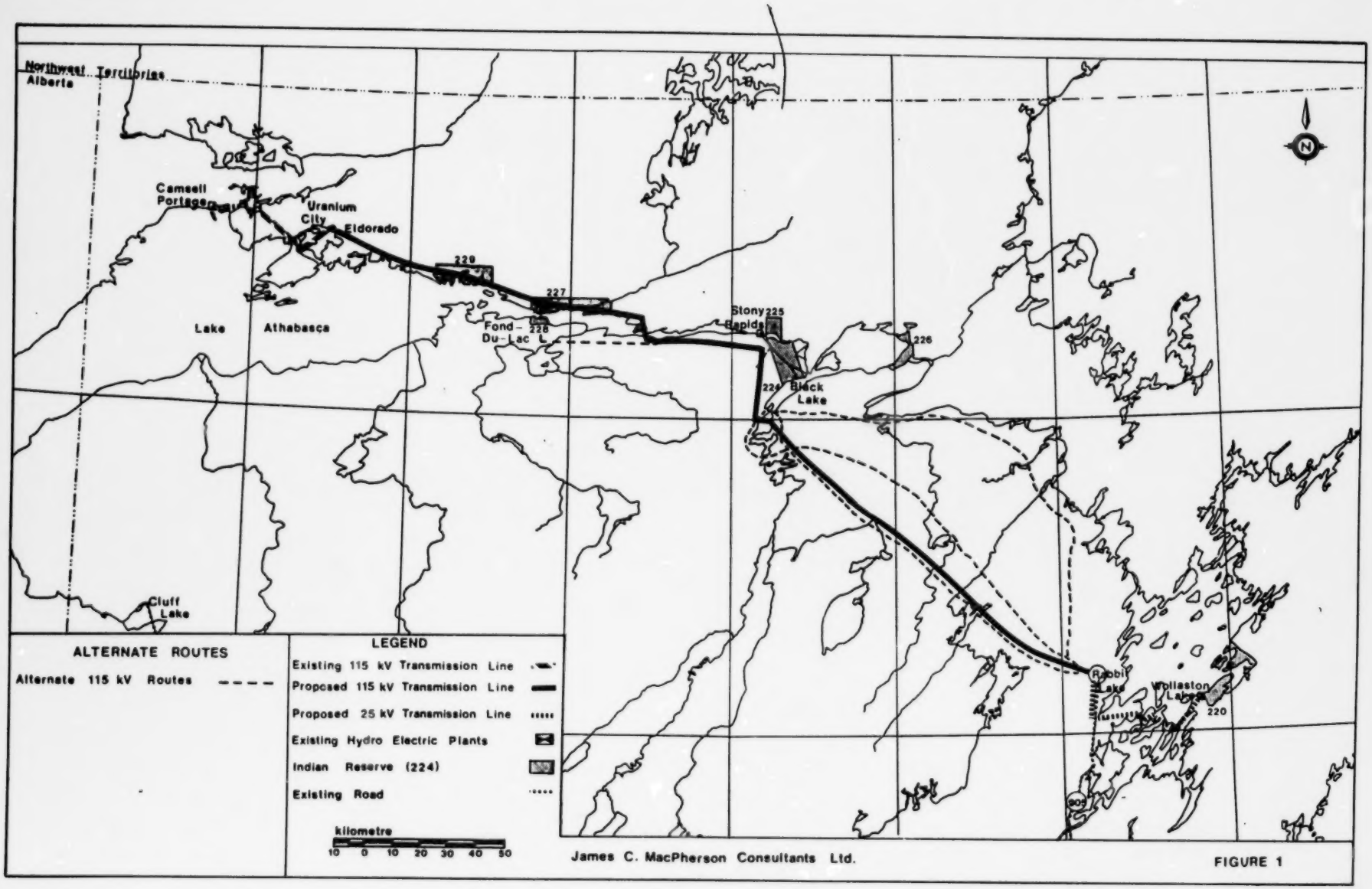
Northwest Territories
Alberta
Camsell Portage
Uranium City
Eldorado
229
227
228
Fond-Du-Lac
Lake Athabasca
Stony Rapids
225
226
224
Black Lake
Cluff Lake
Rabbit Lake
Wollaston Lake
220
N
ALTERNATE ROUTES
Alternate 115 kV Routes
LEGEND
Existing 115 kV Transmission Line
Proposed 115 kV Transmission Line
Proposed 25 kV Transmission Line
Existing Hydro Electric Plants
Indian Reserve (224)
Existing Road
kilometre
10 0 10 20 30 40 50
James C. MacPherson Consultants Ltd.

FIGURE 1

involved both environmental and engineering considerations. Alternatives had been suggested for the crossing of the Fond-du-lac River however, engineering constraints favoured the crossing at Pine Channel. Alternatives were also suggested for the route between Cree Bay and Rabbit Lake. In these cases, the chosen route was generally the shortest and least cost option from both economic and environmental perspectives.

4.0 PROJECT DESCRIPTION

The transmission line is proposed to be operational by October 1988. Highlights of the schedule are:

- -surveying of the centerline (now complete)
- -brush clearing of right-of-way:
  February 1987, through December 1987 with winter clearing scheduled for the Pine Channel-Rabbit Lake segment and with summer season clearing scheduled for the Uranium City-Pine Channel, and Rabbit Lake-Wollaston Post route segments
- -foundations, structure framing, setting and stringing:
  January 1988 through September 1988
- -design and construction of distribution lines to Fond-du-lac, Stony Rapids/Black Lake, and Wollaston Post:
  August 1987 through September 1988

For the 115 kV line between Uranium City and Rabbit Lake steel guyed "Y" towers would be used. Specially designed steel towers would be used at major deflections in the transmission line. Foundations and anchors for steel towers would vary with the substrate conditions.

Wooden poles would be used on the 25kV line between Rabbit Lake and Wollaston Lake. Special wooden structures would be used for muskeg conditions on this segment.

Handclearing of the 45 m wide route would take place at stream crossings, sensitive areas and the route between Uranium City and Pine Channel. Mechanical clearing would occur elsewhere.

Ancillary features include supply depots, switching and sub-stations, temporary work camps and, of particular significance to the environmental impact assessment, a maintenance access trail. The trail would be associated with the line from Rabbit Lake to Pine Channel and would be sited within the right-of-way wherever possible.

Water crossings associated with access trail development would involve culverts, floating pontoon bridges and elevated bridges. The type used depends upon the amount of water flow and boat traffic anticipated.

SPC would contract with companies and other organizations such as Bands, for all activities associated with brush clearing and line construction. Northern employment would be maximized on all contracts.

5.0 EXISTING ENVIRONMENT

The proposed transmission line traverses the rocky, ridged landscape of the Kazan Upland from Uranium City to Pine Channel. South of the Fond-du-lac River the line traverses the Athabasca Plain, a sandy glacial drift plain where eskers, drumlins and meltwater channels are common.

Numerous lakes and streams are common in the Precambrian Shield region of northern Saskatchewan. Drainage characteristics north of the Fond-du-lac River differ from the remainder of the study area. In this rugged terrain many of the streams have swiftly flowing waters with many rapids and some waterfalls. To the south, however, the terrain is of generally low relief, drainage is poorer, and bogs are numerous.

Vegetation on the bedrock uplands north of the Fond-du-lac River is characterized by open black spruce woodlands with areas of bog, muskeg and exposed rock outcroppings. The high frequency of fire has produced a sparse, open forest. South of the river, on the Athabasca Plain, vegetation is

characterized by park-like jack pine forests on the sandy upland soils. In moister areas, black spruce, trembling aspen and Alaskan paper birch occur. Fires have frequently disturbed the forest, resulting in extensive areas of jack pine regeneration.

The proposed route crosses traditional winter range of the Beverly and Kaminiuriak populations of barren-ground caribou. The region also supports a resident moose population dependent upon the presence of riparian communities. These ungulate populations have significant regional importance for, although modern settlement based economies have reduced the local peoples dependence upon wildlife resources, caribou and moose still comprise the majority of red meat consumed. As both species may be adversely affected by increased hunting pressures, particularly related to the potential increased access provided by the transmission line, they have been a major focus in the environmental impact assessment.

6.0 SOCIO-ECONOMIC ENVIRONMENT

Approximately 94% of the 3000 permanent residents in the study area are Indian. Those living at Camsell Portage and Uranium City are of Cree ancestory, whereas the remainder of the study area, for the most part, is populated by Athabaskan speaking Chipewyan.

The economy of the region includes both public and private sector employment combined with country income and government transfer payments. Seasonal resource harvesting is important to many of the residents and includes trapping and commercial fishing. The single largest full-time employer is the uranium mine at Rabbit Lake. Public sector employment accounts for fewer jobs, the largest single employer being the hospital at Uranium City.

Generally, the communities are characteristic of frontier regions. Wage employment is low and costs of goods and services are high. Access to the region is limited; barge services operate during the summer on Lake Athabasca, air transport exists but is expensive, and the only all weather road from the south ends near Rabbit Lake.

7.0 IMPACT ASSESSMENT AND MITIGATION MEASURES

Saskatchewan Power Corporation will honour all existing regulations pertaining to construction, operation, and maintenance of the proposed transmission line and ancillary features. The Saskatchewan Environment guidelines followed include:

- Guidelines for Environmental Protection From the Development of Electrical Transmission Lines
- Guidelines for the Establishment of Temporary Work Camps

- Guidelines for Environmental Protection During Road Development

A summary of potential impacts arising from the proposed transmission line and access trail follow.

Dependability of the line

The transmission line will not be provided with a secure back-up energy supply system; therefore, SPC will advise customers against over reliance on electric heat and to retain back-up heating sources.

Regional effects

The transmission line and access trail are likely to affect socio-economic activity, resource use, and human activity in the long term. SPC will recommend that the increased access and possible increased human activity in the region be considered by all government agencies involved in future land use and resource management decisions.

Natural environment

Short term impacts arising from the proposed development are generally related to disturbance to the environment during the construction phase. Identified potential impacts

include:

- -removal and disturbance of topsoil and vegetation
- -disturbance of wildlife species during critical nesting/calving periods
- -disturbance of critical or sensitive aquatic habitat during spawning and rearing periods
- -disturbance of foraging areas

SPC will mitigate these potential problems by timing construction activities to avoid critical wildlife periods, by following revegetation and terrain stabilization procedures and by adhering to the environmental guidelines identified above.

Longer term impacts which may occur include:

- -increased hunter access and increased wildlife harvests
- -loss of important mammal/bird/fish habitat
- -electrocution of raptors
- -aesthetic impacts from the presence of the transmission line and access trail
- -the unknown effects of a right-of-way and trail on the movement of caribou

SPC will mitigate these impacts in a variety of ways, including:

- -consultation with Saskatchewan Parks and Renewable Resources to discuss suitable wildlife plans for

preventing excessive harvests

-SPC will offer assistance in developing a contingency plan to protect caribou should they winter in the transmission line/access trail vicinity

-SPC will make minor adjustments around important raptor nesting areas/trees and will maximize the distance from shorelines important to raptors whenever possible

-SPC has reviewed alternate routes around critical moose and aquatic habitat in order to avoid these sensitive areas

-SPC will conduct monitoring programmes to evaluate effects on nesting raptors. They will also offer assistance in caribou monitoring in an effort to reduce undesireable impacts on such a regionally important species.

-SPC will incorporate design modifications in their tower structures to reduce the potential for raptor electrocutions

-river crossing structures will be chosen to reflect the use and habitat quality of the stream

-SPC will route, as much as possible, around and away from outfitter fishing lakes and streams in an effort to reduce aesthetic impacts.

Heritage resources

The transmission line and access trail have the potential to disturb archaeological and historic resources. Several areas have been identified where a Heritage Resource Impact Assessment will be necessary. Mitigation measures will depend upon the results of this assessment.

Socio-economic environment

Employment and job creation are regarded as critical concerns in northern communities. Therefore, hiring for construction of the line will continue to be coordinated through Norsask Native Outreach. Those individuals presently associated with summer season resource activities will also be given the opportunity to work on the transmission line during the winter.

Individual trappers who may be affected by the development will be compensated for damage to or destruction of traplines. Whenever possible, SPC will minimize disruption by locating ancillary features away from individual trapping areas.

The proposed Stony Rapids airstrip is sited adjacent to the proposed transmission line; therefore, SPC will cooperate with the Ministry of Transport in reaching a mutually

acceptable siting for both.

To reduce law enforcement issues (alcohol, drugs, theft) SPC contractors will police construction camps and if theft at supply depots, staging areas, etc. were to become a problem, SPC will consider protective measures.

Residual impacts

The proposed access trail presents two conflicting issues. First, the presence of the trail provides for the possibility of long-term negative impacts on barren-ground caribou wintering in the region, excessive hunter access to ungulates, and increased access by fishermen to important spawning areas.

Another issue, however, is the trail, even a rudimentary one, will be used by local residents as a transportation route. This offers long-term positive benefits to the residents and communities of the region.